

Acknowledging popular misconceptions about scabies in Aseer region, Saudi Arabia

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ABSTRACT

Background: Human Scabies is an intensely itchy dermatological disease caused by the mite *Sarcoptes scabiei hominis*. Scabies is a problem of all ages, races, and all socioeconomic groups are susceptible. It is influenced by many environmental factors. More than 300 million cases of scabies are reported worldwide every year. Accordingly, this study aims at measuring the knowledge and conception among society in Aseer region of Saudi Arabia. **Method:** A cross-sectional study. It targeted Saudi Adults in Asser region. A simple Arabic self-administered validated questionnaire was utilized for data collection in shopping centers and online using the online applications. The data was collected and then entered using Statistical Package for the Social Sciences (SPSS) software version 20. The SPSS was also used to process and analyze the collected data. **Results:** The sample size was 670 individuals, of which 52% are males while 48% are females. Additionally, 642 (95.8%) reported they have heard about scabies, while only 14 (4.2%) reported the opposite. Moreover, the majority (36.1%) have known about scabies from their friends. While, 33.6% known from the internet and social media. Approximately 57.3% of the samples have a moderate level of awareness. The place of residence, educational level, occupation and income level have significant relationships with the level of awareness, with p-values equal (0.001), (0.019), (.034) and (0.000) respectively. **Conclusion:** There is a lack of knowledge and awareness in Aseer especially in rural areas and needs to be strengthened through different means.

Keywords: Scabies, Saudi Arabia, Knowledge, Awareness

1. INTRODUCTION

Human scabies is an intensely itchy skin disease caused by the burrowing of a female parasite, *Sarcoptes scabiei* resulting in pruritis, irritation and vesicle or pustule formation. *Sarcoptes scabiei*, var. *hominis* is a whitish-brown eight-legged mite. The female, is the source the clinical manifestations, is approximately 0.4 x 0.3 mm. It is almost never visible with the naked eye, and the burrowing habits of the parasite avoid it from being observed by patients. Burrowing is promoted by secretion of proteolytic enzymes that cause



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keratinocytic damage detectable at the ultramicroscopic level. When fertilized, the female burrows rapidly into the epidermis to the level of the stratum granulosum, where it expands its burrow by approximately 2mm each day, lays two or three eggs at a time to a total of 10 to 25, and expire in place after one to two months. Larvae hatch in three to four days, molt three times, leave the burrow for the surface, copulate, and continue the cycle.

At anyone-time, usually patients harbor an average of 10 to 15 mites during first episode, and around half as many with subsequent infestations. It is a worldwide problem and all ages, races, and socioeconomic groups are susceptible and are determined by many environmental factors. Scabies infestation may be infected by bacterial infection, leading to the development of skin eruptions or bullae that, in turn, may lead to the development of more serious consequences such as septicemia. It continues to spread in all countries of the world. Approximately 300 million cases of scabies are reported worldwide each year (Meinking et al., 1999; Burkhart & Craig, 1983). Scabies infestation is present in all ages, sex or skin type plays no part in its etiology (Rathi et al., 2001). Prevalence varies significantly with some countries having rates from 4% to 100% of the population. Pruritus associated with the disease is usually extremely intense, especially at night and treatment needs prescription of scabicide therapy (Arlan et al., 1988; Burkhart & Burkhart, 2012).

It is transmitted by person-to-person contact, sexual or otherwise, or indirectly via fomites. Prevalence is much more in children and people who are sexually active, and it is contagious among family members and other close contacts. It can spread between persons who live in the same place or share close contact with the patient. Prevalence rates are higher in young age group and over crowded residency. Although scabies can appear at any age and any demographic groups. Factors that participate to the spread of scabies are overcrowding, delays in diagnosis, and low public health awareness (Burkhart & Burkhart, 2012; Burkhart et al., 2012). Patients and society knowledge about the disease has a straight-ahead impact on the quality of life of the patients and their adaptabilities with their disease (Bouvresse & Chosidow, 2010).

There are studies measuring the knowledge and conception of society in our region for other diseases e.g., vitiligo (Fatani et al., 2016; Al Robaee et al., 2008) and acne (Al-Hoqail & Ibrahim, 2003; Al Mashat et al., 2013) but we did not find any published paper addressing the conceptions in our society towards scabies. Moreover, to explore the factors that might influence such beliefs (such as local culture) and to explore whether; scabies patients require more health education. Therefore, the aim of this study is to address this topic in the Aseer region of Saudi Arabia.

2. METHODOLOGY

This study is a cross-sectional study. It targeted Saudi Adults in Asser region (Abha, Khamis Mushait, Bisha, and Mahayel Aseer). The study was conducted in March 2021- April 2021. The sampled individuals were randomly selected in shopping centers and online using the online applications and WhatsApp, and Facebook groups using the tool of Google Form in Asser region (Abha, Khamis Mushait, Bisha, and Mahayel Aseer). A simple Arabic self-administered validated questionnaire was utilized for data collection in shopping centers and online using the online applications and WhatsApp, and Facebook groups using the tool of Google Form. The questionnaire covered demographic variables, which are; age, gender, marital status, place of residence, occupation, educational level and income level. It also had further two parts, one covering knowledge, while the second covered the awareness concerning scabies.

The data was collected and then entered using Statistical Package for the Social Sciences (SPSS) software version 20. The SPSS was also used to process and analyze the collected data. The sample size reached 670 individuals. The sample covered both males and females.

3. RESULTS

Demographic Data

The age of the sampled individuals ranges between 12 to 63 years old with mean age of 29.22. Moreover, the results show that 52% of the samples are males while 48% are females. Concerning the place of residence, the results show that 34% live in rural areas while 66% live in urban areas. As shown in table (1), 49.9% of the sampled individuals are married, while 47.2% are single. The divorced represented 2.1%, while the widowed represented only 0.9%.

Around 35.8% of the samples are employees, while 29.6% are unemployed and 34.6% are still students. The results of the analysis show that the majority, representing 64% of the sample, have university education. On the other hand, 28% have public education and 8% have higher education. It appears that 55.2% of the sampled individuals have less than 5000 income, while 26.6% have more than 10000 as income. Moreover, 18.2% have income between 5000-10000.

Table 1 Sample Distribution by Marital Status		
Marital state	Frequency	Percent
Single	316	47.2
Married	334	49.9
Divorced	14	2.1
Widowed	6	0.9
Total	670	100

Knowledge

Concerning the knowledge about scabies, the results show that 642 (95.8%) reported they have heard about it, while only 14 (4.2%) reported the opposite. The sampled individuals were asked about the mean by which they have known scabies. As shown in table (2), the responses showed that the majority (36.1%) have known from their friends, while 33.6% have known from the internet and social media. Around 17% had their knowledge from magazines and newspapers, while 13.4% knew about scabies from television.

Table 2 How did you hear about scabies		
	Frequency	Percent
Internet/social media	216	33.6
TV	86	13.4
Magazine/Newspaper	108	16.8
Friends	232	36.1
Total	642	100

Awareness

Concerning the awareness dimension, the responses show that around 57.3% of the sampled individuals have moderate level of awareness, while 25.5% have slight awareness about scabies. Only 1.9% was not aware at all about scabies, while a 15.3% had extreme awareness (Figure 1).

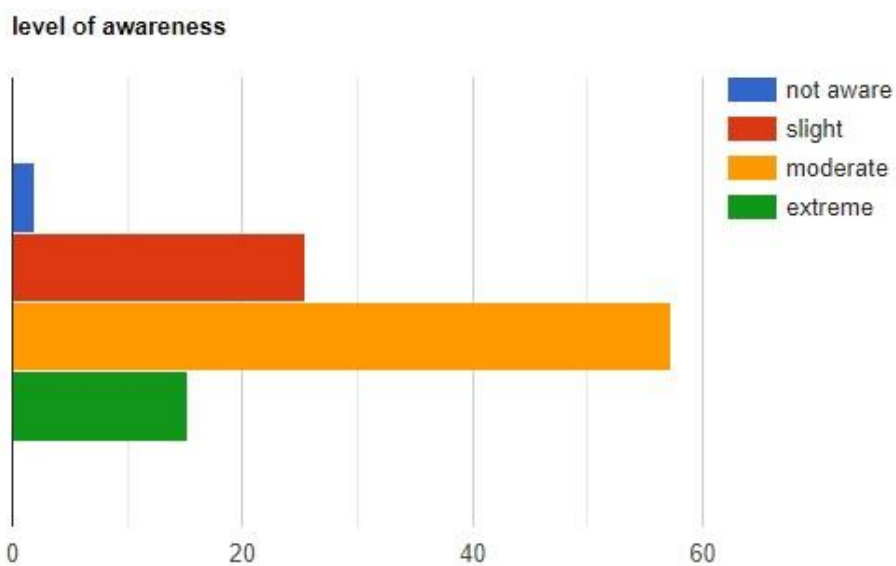


Figure 1 level of awareness

Table 3 shows that Place of residence, educational level, Occupation and income level have significant relationships with the level of awareness, with p-values equal (0.001), (0.019), (.034) and (0.000) respectively, while other demographic variables are insignificantly related with the level of awareness. The results show that extreme awareness is more prevalent; among females,

urban residents, divorced, highly educated, employed and those who have income more than 10000 compared to other categories. On the other hand, the moderate level of awareness was more prevalent among males, urban residents, married, university educated, students and those who have income less than 5000.

Table 3 Relationships between level of awareness and demographic variables						
		Awareness				P-value
		Not at all aware	Slightly Awareness	Moderately Awareness	Extremely Awareness	
Gender	Male	2.40%	23.40%	60.50%	13.80%	0.516
	Female	1.30%	27.90%	53.90%	16.90%	
Place of residence*	Rural	3.60%	36.00%	51.40%	9.00%	0.001
	Urban	1.00%	20.00%	60.50%	18.60%	
Marital state	Single	2.60%	32.90%	52.30%	12.30%	0.108
	Married	1.30%	18.40%	62.70%	17.70%	
	Divorce d	0.00%	14.30%	57.10%	28.60%	
	Widowed	0.00%	100.00 %	0.00%	0.00%	
Educational level*	Public education	3.60%	33.30%	54.80%	8.30%	0.019
	University level	1.40%	22.70%	60.20%	15.60%	
	Higher education	0.00%	23.10%	42.30%	34.60%	
Occupation*	Student	0.90%	29.80%	61.40%	7.90%	0.034
	Employee	1.70%	19.30%	56.30%	22.70%	
	Unemployed	3.40%	28.40%	53.40%	14.80%	
Income level*	Less than 5000	3.50%	29.50%	59.50%	7.50%	0.000
	5000-10000	0.00%	31.10%	50.80%	18.00%	
	More than 10000	0.00%	13.80%	57.50%	28.70%	

* significant at P-value < 0.05

4. DISCUSSION

This cross-sectional study was undertaken to determine the knowledge and attitude of Scabies among the general population of adult males and females in Saudi Adults conducted in Asser region (Abha, Khamis Mushait, Bisha, and Mahayel Aseer). A simple Arabic self-administered validated questionnaire was utilized for data collection in shopping centers was randomly distributed to a total of 670 adults of both sexes and age ranges between 12 to 63 years old. A study on general practitioners was conducted in Pakistan concerning the awareness about Scabies in Karachi. The results showed that only 36% of GPs had satisfactory level of awareness, which is relatively lower than the level of moderate awareness in our study (57.3%). The study examined the effect of age and experience on the level of awareness among GP. It was found that neither increasing age nor increasing years of experience improved the level of awareness (Rathi et al., 2001). Highly educated have significant relationship with the level of awareness and also high-income group have significant relationship with the level of awareness.

A Saudi study covered the knowledge, awareness and practice about scabies among nurses' students of sabia University College/ Jazan University. The study covered 106 students. In this study the respondent's knowledge regard scabies 44 (83.0%) know what is scabies which is relatively lower than the level of knowledge in our study (96%). The study also concluded that there is significant relationship between demographic data (education level .001, and economic status .003, and Place of residence 0.001) and knowledge (Bilal et al., 2018). The results of this study and our study agree with another study done in (Pesantren Darul Fatwa, Jatinangor) where most of the respondents knew about scabies (Mohd et al., 2015). Finding of this present study showed that

participant knowledge grades regarding Scabies were significantly among female, urban, also among those who are divorced and employees. Result of the present study showed that participant knowledge grades differed significantly according to their main source of information about Scabies with highest good knowledge grades among those who obtained their information from their friends, internet and social media. Based on findings of the current study, participants who received health education had better knowledge. These findings indicate that it is very necessary to receive the correct health information messages from their proper sources.

5. CONCLUSION

There is lack of knowledge and awareness in Aseer especially in rural areas and needs to be strengthened through different means including awareness campaigns and using internet and social media applications and it must be financially and governmentally supported. Health care providers at Primary Health Care centers could be a good source for information to the society, therefore, they should be included in awareness programs because they are the first doctors to be visited in our society. We also suggest doing a training course for Primary Health Care providers on scabies in order to raise public's awareness and knowledge regarding scabies.

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Conflict of Interest

The authors declare that they have no conflict of interest.

Informed consent

Written & Oral informed consent was obtained from all individual participants included in the study. Additional informed consent was obtained from all individual participants for whom identifying information is included in this manuscript.

Ethical approval

The study was approved by the Medical Ethics Committee of medical college, Bisha University, Code number: UBCOM/ H-06-BH-087 (06/16).

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Conflict of interest

The authors declare no conflict of interest.

Data and materials availability

All data associated with this study are present in the paper.

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